Amendment Filed: July 30, 2004
Application No. 09/629,051 to Spielman et al.

<u>IN THE CLAIMS:</u>

1. (Currently Amended) A notification method comprising:

obtaining a notification message having been sent from a notification source according to a first open network protocol, the notification message specifying at least one notification recipient and notification information;

accessing a subscriber directory, according to a second open network protocol, for subscriber attribute information specifying subscriber notification preference for the specified at least one notification recipient;

generating, based on the subscriber notification preference, a notification delivery message that specifies a destination address of a corresponding notification device for the notification recipient and at least a corresponding selected portion of the notification information; and

outputting, according to a third open network protocol, the one notification delivery message to a selected corresponding one of a plurality of notification delivery processes for delivery of the selected portion of the notification information to the notification device according to a corresponding device protocol, <u>at least one of</u> the notification delivery processes including <u>multiple instances</u> ~~a group~~ of <u>the corresponding process,</u> ~~duplicate processes~~ each <u>instance</u> configured for sending the notification information to the notification device according to the device protocol, the outputting step including selecting one of the <u>instances</u> ~~duplicate processes~~ as the selected one notification delivery process.

2. (Original) The method of claim 1, wherein the obtaining step includes retrieving the notification message from an Simple Mail Transfer Protocol (SMTP)-based mailbox configured for receiving e-mail messages as notification messages for notification subscribers.

3. (Original) The method of claim 2, wherein the accessing step includes accessing the subscriber directory according to Lightweight Directory Access Protocol (LDAP) as the second open network protocol for the subscriber attribute information.

4. (Original) The method of claim 2, wherein the retrieving step includes retrieving the notification message according to IMAP protocol as the first open network protocol.

5. (Original) The method of claim 4, wherein the outputting step includes outputting the notification delivery message according to SMTP protocol as the third open network protocol.

6. (Currently Amended) The method of claim 5, wherein the selecting step includes selecting the one instance ~~duplicate process from the group of duplicate processes~~ by accessing a table configured for storing SMTP addresses assigned to the respective ~~duplicate~~ instances of the corresponding process ~~processes~~.

7. (Currently Amended) The method of claim 6, wherein the selecting step further includes selecting the one instance ~~duplicate process~~ based on the specified at least one notification recipient.

8. (Original) The method of claim 1, wherein the outputting step includes outputting the at least one notification delivery message according to SMTP protocol as the third open network protocol.

9. (Currently Amended) The method of claim 8, wherein the selecting step includes selecting the one ~~duplicate process from the group of duplicate processes~~ instance from a table configured for

storing SMTP addresses assigned to the respective ~~duplicate~~ instances of the corresponding process ~~processes~~.

10. (Currently Amended) The method of claim 9, wherein the selecting step further includes selecting the one instance ~~duplicate process~~ based on the specified at least one notification recipient.

11. (Original) A method for deployment of a notification system for a notification source, the method comprising the steps of:

first initiating multiple notification processes, each notification process configured for retrieving according to a first open network protocol a corresponding notification message from a corresponding primary message store, each notification message specifying at least one corresponding notification recipient and corresponding notification information, each notification process configured for accessing a subscriber directory according to a second open network protocol for subscriber notification preference information for the at least one corresponding notification recipient and in response generating a corresponding notification delivery message that specifies a destination address of the corresponding notification device; second initiating multiple notification delivery processes, each configured for retrieving according to a third open network protocol a corresponding received notification delivery message from a corresponding secondary message store and supplying a corresponding notification to a subscriber device according to a corresponding device protocol based on the corresponding received notification delivery message;

first providing each of the multiple notification processes destination address information for providing the notification delivery messages to the secondary message stores; and

second providing the notification source with destination address information for providing the notification messages to the primary message stores.

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12. (Original) The method of claim 11, wherein the first initiating step includes supplying each notification process with a corresponding retrieval address for the retrieval of the corresponding notification message from the corresponding primary message store.

13. (Original) The method of claim 12, wherein the second initiating step includes supplying each notification delivery process with a corresponding retrieval address for the retrieval of the corresponding notification delivery message from the corresponding secondary message store.

14. (Original) The method of claim 13, further comprising:

third initiating another instance of the notification process; and

third providing the notification source with destination address information for providing notification messages to a primary message store accessible by the another instance of the notification process.

15. (Original) The method of claim 14, further comprising:

fourth initiating another instance of one of the notification delivery processes; and

fourth providing the notification processes with destination address information for providing the notification delivery messages to a secondary message store accessible by the another instance of one of the notification delivery processes.

16. (Original) The method of claim 12, further comprising:

third initiating another instance of the notification process; and

third providing the notification source with destination address information for providing notification messages to a primary message store accessible by the another instance of the notification process.

17. (Original) The method of claim 16, further comprising:

fourth initiating another instance of one of the notification delivery processes; and

fourth providing the notification processes with destination address information for providing the notification delivery messages to a secondary message store accessible by the another instance of one of the notification delivery processes.

18. (Original) The method of claim 12, wherein the first open network protocol and the third open network protocol each is IMAP protocol.

19. (Original) The method of claim 12, wherein the second open network protocol is LDAP protocol.

20. (Currently Amended) A notification system comprising:

means for obtaining a notification message having been sent from a notification source according to a first open network protocol, the notification message specifying at least one notification recipient and notification information;

means for accessing a subscriber directory, according to a second open network protocol, for subscriber attribute information specifying subscriber notification preference for the specified at least one notification recipient;

means for generating, based on the subscriber notification preference, a notification delivery message that specifies a destination address of a corresponding notification device for the notification recipient and at least a corresponding selected portion of the notification information; and

means for outputting, according to a third open network protocol, the one notification delivery message to a selected corresponding one of a plurality of notification delivery processes for delivery of the selected portion of the notification information to the notification device according to a

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corresponding device protocol, <u>at least one of</u> the notification delivery processes including <u>multiple</u> <u>instances</u> ~~a group~~ of <u>the corresponding process,</u> ~~duplicate processes~~ each <u>instance</u> configured for sending the notification information to the notification device according to the device protocol, the outputting means selecting one of the <u>instances</u> ~~duplicate processes~~ as the selected one notification delivery process.

21.   (Original) The system of claim 20, wherein the obtaining means retrieves the notification message from an Simple Mail Transfer Protocol (SMTP)-based mailbox configured for receiving e-mail messages as notification messages for notification subscribers.

22.   (Original) The system of claim 21, wherein the accessing means accesses the subscriber directory according to Lightweight Directory Access Protocol (LDAP) as the second open network protocol for the subscriber attribute information.

23.   (Original) The system of claim 21, wherein the retrieving means retrieves the notification message according to IMAP protocol as the first open network protocol.

24. (Original)   The system of claim 23, wherein the outputting means outputs the notification delivery message according to SMTP protocol as the third open network protocol.

25.   (Currently Amended) The system of claim 24, wherein the outputting means selects the one <u>instance</u> ~~duplicate process from the group of duplicate processes~~ by accessing a table configured for storing SMTP addresses assigned to the respective ~~duplicate~~ <u>instances of the corresponding</u> <u>process</u> ~~processes~~.

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26. (Currently Amended) The system of claim 25, wherein the outputting means selects the one instance ~~duplicate process~~ based on the specified at least one notification recipient.

27. (Original) The system of claim 20, wherein the outputting means outputs the at least one notification delivery message according to SMTP protocol as the third open network protocol.

28. (Currently Amended) The system of claim 27, wherein the outputting means selects the one instance ~~duplicate process from the group of duplicate processes~~ from a table configured for storing SMTP addresses assigned to the respective ~~duplicate~~ instances of the corresponding process ~~processes~~.

29. (Currently Amended) The system of claim 28, wherein the outputting means selects the one instance ~~duplicate process~~ based on the specified at least one notification recipient.

30. (Currently Amended) A notification system comprising:

a notification process configured for:

(1) obtaining a notification message having been sent from a notification source according to a first open network protocol, each notification message specifying at least one notification recipient and notification information,

(2) accessing a subscriber directory according to a second open network protocol for subscriber notification preference information for the at least one notification recipient,

(3) generating at least one notification delivery message that specifies a destination address of a corresponding notification device for the notification recipient and at least a corresponding selected portion of the notification information based on the subscriber notification preference information, and

(4) outputting the at least one notification delivery message according to a third open network protocol; and

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a plurality of notification delivery processes, each configured for delivering a notification to a subscriber device according to a corresponding device protocol based on a corresponding received notification delivery message, <u>at least one of</u> the notification delivery processes including <u>multiple instances</u> ~~a group~~ <u>of the corresponding process,</u> ~~duplicate processes~~ each <u>instance</u> configured for sending the notification information to the notification device according to the device protocol, the notification process selecting one of the <u>instances</u> ~~duplicate process~~ as the selected one notification delivery process.

31. (Original) The system of claim 30, wherein the notification process is configured for obtaining the notification message from an SMTP-based mailbox configured for receiving e-mail messages as notification messages for notification subscribers.

32. (Original) The system of claim 30, wherein the notification process is configured for obtaining the notification message from the SMTP-based mailbox according to IMAP protocol as the first open network protocol.

33. (Original) The system of claim 30, wherein the notification process is configured for accessing the subscriber directory according to LDAP protocol as the second open network protocol.

34. (Original) The system of claim 30, wherein the notification process is configured for outputting the at least one notification delivery message according to SMTP protocol as the third open network protocol.

35. (Original) The system of claim 30, further comprising a primary SMTP-based mailbox for receiving the notification message from the notification source, the notification process configured for periodically obtaining the notification message according to IMAP protocol.

36. (Original) The system of claim 35, further comprising secondary SMTP-based mailboxes configured for receiving the notification delivery messages for the respective notification delivery processes, each notification delivery process accessing its corresponding secondary SMTP-based mailbox for the corresponding notification delivery message.

37. (Original) The system of claim 36, further comprising:

a second notification process configured for obtaining a second notification message having been sent from the notification source according to the first open network protocol, and in response outputting a notification message to at least one of the notification delivery processes based on subscriber notification preference information retrieved from the subscriber directory; and

a second primary SMTP-based mailbox for receiving the second notification message from the notification source, the second notification process configured for periodically obtaining the notification message according to IMAP protocol.

38. (Original) The system of claim 30, further comprising a second notification process configured for obtaining a second notification message having been sent from the notification source according to the first open network protocol, and in response outputting a notification message to at least one of the notification delivery processes based on subscriber notification preference information retrieved from the subscriber directory.

39. (Currently Amended) A computer readable medium having stored thereon sequences of instructions for notifying a subscriber, the sequences of instructions including instructions for performing the steps of:

obtaining a notification message having been sent from a notification source according to a first open network protocol, the notification message specifying at least one notification recipient and notification information;

accessing a subscriber directory, according to a second open network protocol, for subscriber attribute information specifying subscriber notification preference for the specified at least one notification recipient;

generating, based on the subscriber notification preference, a notification delivery message that specifies a destination address of a corresponding notification device for the notification recipient and at least a corresponding selected portion of the notification information; and

outputting, according to a third open network protocol, the one notification delivery message to a selected corresponding one of a plurality of notification delivery processes for delivery of the selected portion of the notification information to the notification device according to a corresponding device protocol, at least one of the notification delivery processes including multiple instances a group of the corresponding process, duplicate processes each instance configured for sending the notification information to the notification device according to the device protocol, the outputting step including selecting one of the instances duplicate processes as the selected one notification delivery process.

40. (Original) The medium of claim 39, wherein the obtaining step includes retrieving the notification message from an Simple Mail Transfer Protocol (SMTP)-based mailbox configured for receiving e-mail messages as notification messages for notification subscribers.

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41.   (Original) The medium of claim 40, wherein the accessing step includes accessing the subscriber directory according to Lightweight Directory Access Protocol (LDAP) as the second open network protocol for the subscriber attribute information.

42. (Original) The medium of claim 40, wherein the retrieving step includes retrieving the notification message according to IMAP protocol as the first open network protocol.

43. (Original) The medium of claim 42, wherein the outputting step includes outputting the notification delivery message according to SMTP protocol as the third open network protocol.

44. (Currently Amended) The medium of claim 43, wherein the selecting step includes selecting the one instance ~~duplicate process from the group of duplicate processes~~ by accessing a table configured for storing SMTP addresses assigned to the respective ~~duplicate~~ instances of the corresponding process ~~processes~~.

45. (Currently Amended) The medium of claim 44, wherein the selecting step further includes selecting the one instance ~~duplicate process~~ based on the specified at least one notification recipient.

46.   (Original) The medium of claim 39, wherein the outputting step includes outputting the at least one notification delivery message according to SMTP protocol as the third open network protocol.

47. (Currently Amended) The medium of claim 46, wherein the selecting step includes selecting the one instance ~~duplicate process from the group of duplicate processes~~ from a table

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configured for storing SMTP addresses assigned to the respective ~~duplicate~~ <u>instances of the</u> <u>corresponding process</u> ~~processes~~.

48. (Currently Amended) The medium of claim 47, wherein the selecting step further includes selecting the one <u>instance</u> ~~duplicate process~~ based on the specified at least one notification recipient.

49. (Original) A computer readable medium having stored thereon sequences of instructions for deploying a notification system for a notification source, the sequences of instructions including instructions for performing the steps of:

first initiating multiple notification processes, each notification process configured for retrieving according to a first open network protocol a corresponding notification message from a corresponding primary message store, each notification message specifying at least one corresponding notification recipient and corresponding notification information, each notification process configured for accessing a subscriber directory according to a second open network protocol for subscriber notification preference information for the at least one corresponding notification recipient and in response generating a corresponding notification delivery message that specifies a destination address of the corresponding notification device;

second initiating multiple notification delivery processes, each configured for retrieving according to a third open network protocol a corresponding received notification delivery message from a corresponding secondary message store and supplying a corresponding notification to a subscriber device according to a corresponding device protocol based on the corresponding received notification delivery message;

first providing each of the multiple notification processes destination address information for providing the notification delivery messages to the secondary message stores; and

second providing the notification source with destination address information for providing the notification messages to the primary message stores.

50. (Original) The medium of claim 49, wherein the first initiating step includes supplying each notification process with a corresponding retrieval address for the retrieval of the corresponding notification message from the corresponding primary message store.

51. (Original) The medium of claim 50, wherein the second initiating step includes supplying each notification delivery process with a corresponding retrieval address for the retrieval of the corresponding notification delivery message from the corresponding secondary message store.

52. (Original) The medium of claim 51, further comprising instructions for performing the steps of:

third initiating another instance of the notification process; and

third providing the notification source with destination address information for providing notification messages to a primary message store accessible by the another instance of the notification process.

53. (Original) The medium of claim 52, further comprising instructions for performing the steps of:

fourth initiating another instance of one of the notification delivery processes; and

fourth providing the notification processes with destination address information for providing the notification delivery messages to a secondary message store accessible by the another instance of one of the notification delivery processes.

54.   (Original) The medium of claim 50, further comprising instructions for performing the steps of:

third initiating another instance of the notification process; and

third providing the notification source with destination address information for providing notification messages to a primary message store accessible by the another instance of the notification process.

55.   (Original) The medium of claim 54, further comprising instructions for performing the steps of:

fourth initiating another instance of one of the notification delivery processes; and

fourth providing the notification processes with destination address information for providing the notification delivery messages to a secondary message store accessible by the another instance of one of the notification delivery processes.

56.   (Original) The medium of claim 50, wherein the first open network protocol and the third open network protocol each is IMAP protocol.

57.   (Original) The medium of claim 50, wherein the second open network protocol is LDAP protocol.

58.   (Original) A system for deployment of a notification system for a notification source, the system comprising:

a first server configured for first initiating multiple notification processes, each notification process configured for retrieving according to a first open network protocol a corresponding notification message from a corresponding primary message store, each notification message specifying at least one corresponding notification recipient and corresponding notification information, each

notification process configured for accessing a subscriber directory according to a second open network protocol for subscriber notification preference information for the at least one corresponding notification recipient and in response generating a corresponding notification delivery message that specifies a destination address of the corresponding notification device;

a second server configured for second initiating multiple notification delivery processes, each configured for retrieving according to a third open network protocol a corresponding received notification delivery message from a corresponding secondary message store and supplying a corresponding notification to a subscriber device according to a corresponding device protocol based on the corresponding received notification delivery message;

a first parameter file entry configured for providing each of the multiple notification processes destination address information for providing the notification delivery messages to the secondary message stores; and

a second parameter file entry configured for providing the notification source with destination address information for providing the notification messages to the primary message stores.

59.   (Original) The system of claim 58, wherein the first server supplies each notification process with a corresponding retrieval address for the retrieval of the corresponding notification message from the corresponding primary message store.

60.   (Original) The system of claim 59, wherein the second server supplies each notification delivery process with a corresponding retrieval address for the retrieval of the corresponding notification delivery message from the corresponding secondary message store.

61.   (Original) The system of claim 60, wherein the first open network protocol and the third open network protocol each is IMAP protocol.

62.   (Original) The system of claim 60, wherein the second open network protocol is LDAP protocol.

63.   (Original) A system for deployment of a notification system for a notification source, the system comprising:

first means for initiating multiple notification processes, each notification process configured for retrieving according to a first open network protocol a corresponding notification message from a corresponding primary message store, each notification message specifying at least one corresponding notification recipient and corresponding notification information, each notification process configured for accessing a subscriber directory according to a second open network protocol for subscriber notification preference information for the at least one corresponding notification recipient and in response generating a corresponding notification delivery message that specifies a destination address of the corresponding notification device;

second means for initiating multiple notification delivery processes, each configured for retrieving according to a third open network protocol a corresponding received notification delivery message from a corresponding secondary message store and supplying a corresponding notification to a subscriber device according to a corresponding device protocol based on the corresponding received notification delivery message;

first means for providing each of the multiple notification processes destination address information for providing the notification delivery messages to the secondary message stores; and

second means for providing the notification source with destination address information for providing the notification messages to the primary message stores.

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64. (Original) The system of claim 63, wherein the first means for initiating supplies each notification process with a corresponding retrieval address for the retrieval of the corresponding notification message from the corresponding primary message store.

65. (Original) The system of claim 64, wherein the second means for initiating supplies each notification delivery process with a corresponding retrieval address for the retrieval of the corresponding notification delivery message from the corresponding secondary message store.

66. (Original) The system of claim 65, further comprising:

third means for initiating another instance of the notification process; and

third means for providing the notification source with destination address information for providing notification messages to a primary message store accessible by the another instance of the notification process.

67. (Original) The system of claim 66, further comprising:

fourth means for initiating another instance of one of the notification delivery processes; and

fourth means for providing the notification processes with destination address information for providing the notification delivery messages to a secondary message store accessible by the another instance of one of the notification delivery processes.

68. (Original) The system of claim 62, wherein the first open network protocol and the third open network protocol each is IMAP protocol.

69. (Original) The system of claim 62, wherein the second open network protocol is LDAP protocol.